

**PROGRESS REPORTING
GUIDANCE
for
MONITORING AND OPERATION & MAINTENANCE
of
HAZARDOUS SUBSTANCE
UNDERGROUND STORAGE TANK
REMEDIATION SYSTEMS**



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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
UNDERGROUND STORAGE TANK PROGRAM
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1.0 INTRODUCTION/PURPOSE

The purpose of this document is to provide an owner of a Hazardous Substance Underground Storage Tank (UST) guidance for submitting progress reports on the status of the operation & maintenance and periodic monitoring of remediation systems. Progress reports are to discuss results of the last monitoring event and evaluate these results in relationship to previous monitoring events. Evaluation of trends and how the remediation is progressing along with projecting the remaining time needed for remediation should be addressed. The Progress Report should present information in a brief and precise format to make it easier for the owner and EPA personnel to evaluate the status of the remediation systems and how well remediation is progressing.

2.0 STATUTES REGULATING HAZARDOUS SUBSTANCES

The Environmental Protection Agency (EPA) regulates underground storage tanks containing petroleum or hazardous substances by authority of Subtitle I of the Resource Conservation and Recovery Act (RCRA). Subtitle I was added to RCRA by the Hazardous and Solid Waste Amendments of 1984. Although Subtitle I establishes regulation of substances defined as "hazardous" under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), this does not include hazardous wastes as defined by Subtitle C of RCRA.

3.0 CONTENTS OF PROGRESS REPORT

Progress reports are to be submitted on a frequency established in the Corrective Action Plan (CAP) develop under the requirement of 40 C.F.R. §280 Subpart F - Release Response and Corrective Action for UST Systems Containing Petroleum or Hazardous Substances. Only one copy of the progress report should be submitted to EPA. Progress reports should briefly discuss how remediation of the release site is progressing to meet the cleanup goals established in the Corrective Action Plan approved by EPA. The Progress Report should present information in a brief and precise format making it easy for the owner and EPA personnel to evaluate the status of the remediation systems and how well remediation is progressing. Long verbiage is not necessary to convey remediation status. The progress report outline given in this

guidance presents the subjects/issues which should be included and discussed in a progress report.

3.1 PROGRESS REPORT OUTLINE

3.1.1 *Introduction*

- **Reporting Period**
- **Site Background** [Give a brief discussion on previous activities/reports, including the date of remediation system start-up]
- **Remediation System Description** [Type/description of remediation system, number/location of liquid/vapor extraction points and the different phases of remediation]
- **Past Reporting Period Activities** [Briefly summarize the past site operating & monitoring activity]
- **Monitoring Schedule**
- **Closure Goals and Objectives** [Discuss the cleanup goals with time frame and how monitoring requirements will demonstrate that the remediation system(s) will meet the cleanup goals and objectives]

3.1.2 *Activities for the Period*

- **OPERATIONAL SUMMARY** - Summarize any operational and maintenance problems identified or encountered on site during this reporting period. Summarization should include items such as: System Down Time Summary, Maintenance/repair Problems, Percent system operating during the reporting period, Task etc.
- **REMEDATION ACTIVITIES**
 - Assessment of Existing Conditions**
 - Number of wells with liquid chemical of concern (COC), maximum thickness** (note absence)
 - Free Product recovery for quarter/total to date** (pounds w/gallon conversions)
 - Monitoring/recovery Well Concentration Data**
 - Ground Water Elevation Data**
 - System Performance**
 - < **Estimated total mass recovered or remediated**
 - < **Estimated time to complete cleanup**
 - System Compliance**
 - < **Discharge levels air/water relative to permitted limits**
 - Site Monitoring Results**
 - Date of well sampling events and chemical of concern (COC) levels**

3.1.3 *Conclusions of How the Remediation is Progression*

- **Change in COC levels as compared to previous reporting periods. Are trends**

in the concentrations increasing or decreasing over time? If ground water concentrations are increasing over time, should a change in the remediation method be considered?

- Status of liquid COC occurrence/removal.
- Status of dissolved COC occurrence/removal.
- Absorbed COC reduction {Soil Vapor Extraction (SVE) effluent}.
- Status of meeting objective/closure goals.
- Expected date of termination as compared to the original estimated in the approved CAP.

3.1.4 *Anticipated Activities for the Next Reporting Period*

- Describe the planned activities to be conducted during the next reporting period.

3.1.5 *Tables (summaries)*

- Ground water elevation data (current/historical)
- Liquid free product thickness (current/historical)
- Ground Water monitoring data (current/historical)
- Soil monitoring data (current/historical)
- Vapor monitoring data (current/historical)

3.1.6 *Figures*

- Area map - General map showing UST facility location.
- Site map - Map should include the system layout, well location, adjacent properties, north arrow, buildings, scale, etc.
- Ground water potentiometric surface map using the most current ground water elevation data. Also, attach the last three reporting period potentiometric maps, for comparison purposes.
- Chemical(s) of concern isoconcentration map, including free product plum (if applicable). Also, attach the last three reporting period isoconcentration maps, for comparison purposes.
- Analytical and Water Level Trend Graphs - For each monitoring well sample d show the ground water conta minant concen tration for the chemic al of concer

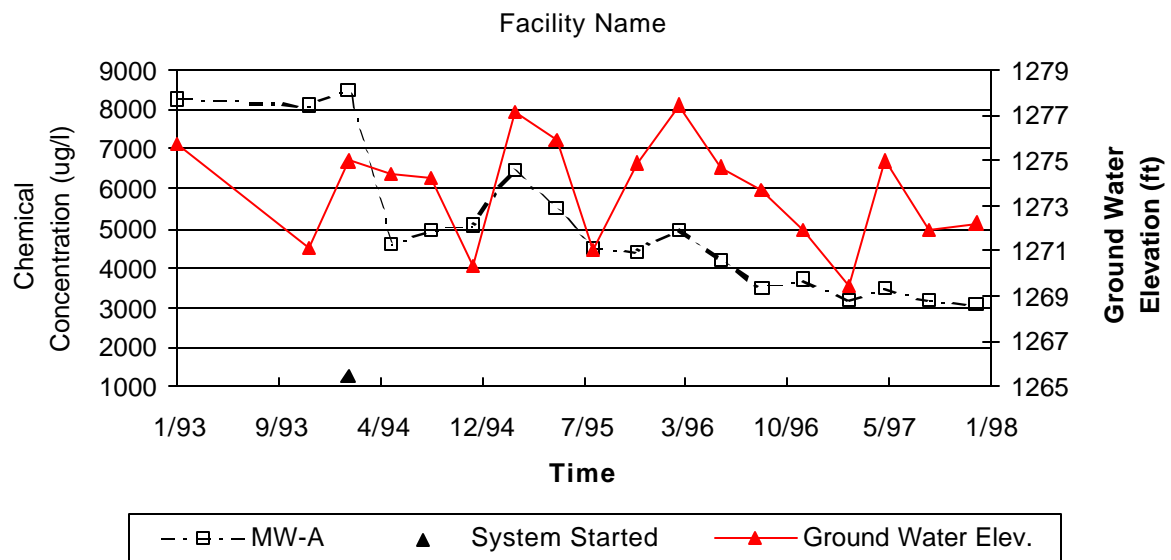
n and ground water levels. Use all ground water data and indicate the point in time when remediation activities started and ended. Use the example in this guidance as a guide.

- (If applicable) A graph showing the run time for each month since system installation.
- (If applicable) A graph of the volatile organic carbons (VOCs) removed by the remediation system each month since startup. Show the pounds (lbs) removed each month, not the cumulative pounds removed to date. The quantity of VOCs removed must be calculated from laboratory analysis (GC) of an air sample collected from the effluent stack prior to any off-gas treatment (before system adjustment). PID/FID measurements of air samples should only be used to adjust the system for maximum effectiveness and efficiency.
- (If applicable) A graph of the volume of free product removed (gallon) each period. Show the volume removed each period, not the cumulative volume removed over time. Where an SVE system is removing free product the VOC graph described above may substitute for this graph.
- (If applicable) A graph of the volume of wastewater treated to date.

3.1.7 Attachments

- **Laboratory Analytical Reports (current sampling period). Provide all laboratory analysis sheets for this monitoring period. Include the UST Facility ID Number on all laboratory analysis sheets. The laboratory QA/QC calibration/spike analysis shall be included in laboratory analytical reports.**
- **A copy of the chain of custody sheets shall be included.**

3.1.8 Example



Ground Water Concentration and Elevation versus Time